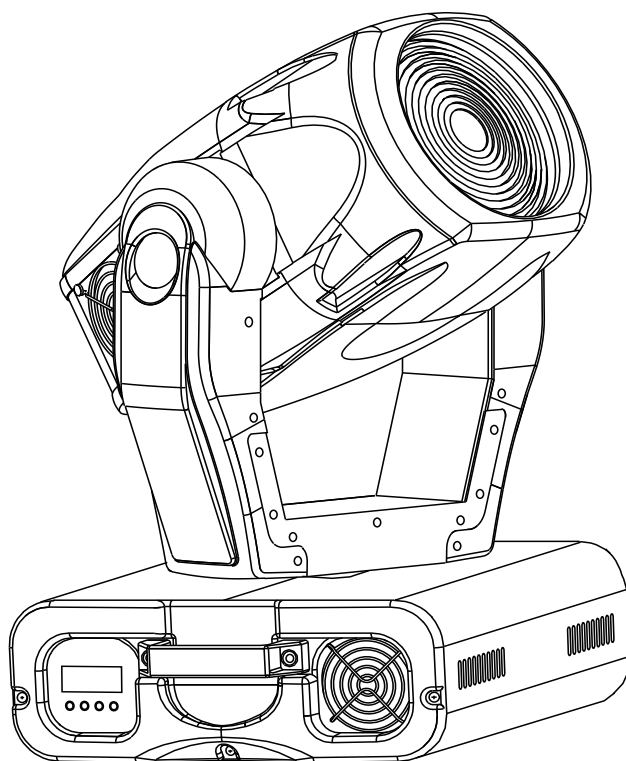


SERVO *COLOR 575*

automated light system

USER MANUAL



SERVO *COLOR 575*

automated light system

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CAUTION!
Keep this device away from rain and moisture!
Unplug mains lead before opening the housing!

**FOR YOUR OWN SAFETY, PLEASE READ THIS USER MANUAL CAREFULLY
BEFORE YOU INITIAL START - UP!**

1. Safety instructions

Every person involved with installation and maintenance of this device have to:

- be qualified
- follow the instructions of this manual

Caution !
Be careful with your operations.
With a dangerous voltage you can suffer
a dangerous electric shock when touching the wires!

This device has left our premises in absolutely perfect condition. In order to maintain this condition and to ensure a safe operation, it is absolutely necessary for the user to follow the safety instructions and warning notes written in this manual.

Important:

Damages caused by the disregard of this user manual are not subject to warranty. The dealer will not accept liability for any resulting defects or problems

If the device has been exposed to drastic temperature fluctuation (e.g. after transportation), do not switch it on immediately. The arising condensation water might damage your device. Leave the device switched off until it has reached room temperature.

This device falls under protection-class I. The power plug must only be plugged into a protection class I outlet. Never let the power-cord come into contact with other cables! Handle the power-cord and all connections with the mains with particular caution!

Make sure that the available voltage is not higher than stated on the rear panel.

Make sure that the power-cord is never crimped or damaged by sharp edges. Check the device and the power-cord from time to time.

Always disconnect from the mains, when the device is not in use or before cleaning it. Only handle the power-cord by the plug. Never pull out the plug by tugging the power-cord.

During the initial start-up some smoke or smell may arise. This is a normal process and does not necessarily mean that the device is defective.

Caution: During the operation, the housing becomes very hot.

Do not switch the device on and off in short intervals as this would reduce the lamp's life

CAUTION ! EYEDAMAGES !
Avoid looking directly into the light source
(meant especially for epileptics) !

Please consider that damages caused by manual modifications to the device are not subject to warranty.

Keep away children and amateurs

2. Operating determinations

This device is a moving-head spot for creating decorative effects and was designed for indoor use only.

This device is designed for professional use, e.g. on stages, in discotheques, theatres etc.

Lighting effects are not designed for permanent operation. Consistent operation breaks will ensure that the device will serve you for a long time without defects.

Never run the device without lamp!

Do not shake the device. Avoid brute force when installing or operating the device.

Never lift the fixture by holding it at the projector-head, as the mechanics may be damaged. Always hold the fixture at the transport handles.

When choosing the installation-spot, please make sure that the device is not exposed to extreme heat, moisture or dust. There should not be any cables lying around. You endanger your own and the safety of others!

The minimum distance between light-output and the illuminated surface must be more than 1 meter.

Make sure that the area below the installation place is blocked when rigging, derigging or servicing the fixture.

Always fix the fixture with an appropriate safety-rope. Fix the safety-rope at the correct holes only.

Only operate the fixture after having checked that the housing is firmly closed and all screws are tightly fastened.

The lamp must never be ignited if the objective-lens or any housing-cover is open, as discharge lamps may explode and emit a high ultraviolet radiation, which may cause burns.

The maximum ambient temperature t_a must never be exceeded.

CAUTION!

The lens has to be replaced when it is obviously damaged, so that its function is impaired, e. g. due to cracks or deep scratches!

Operate the device only after having familiarized with its functions. Do not permit operation by persons not qualified for operating the device. Most damages are the result of unprofessional operation!

CAUTION!

The lamp has to be replaced when it is damaged or deformed due to the heat!

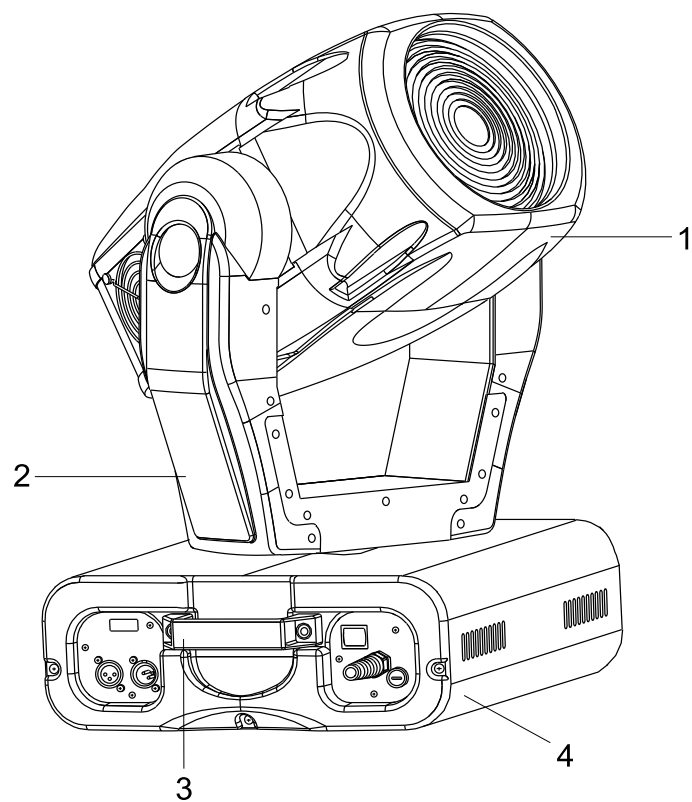
Please use the original packaging if the device is to be transported.

Please consider that unauthorized modifications on the device are forbidden due to safety reasons!

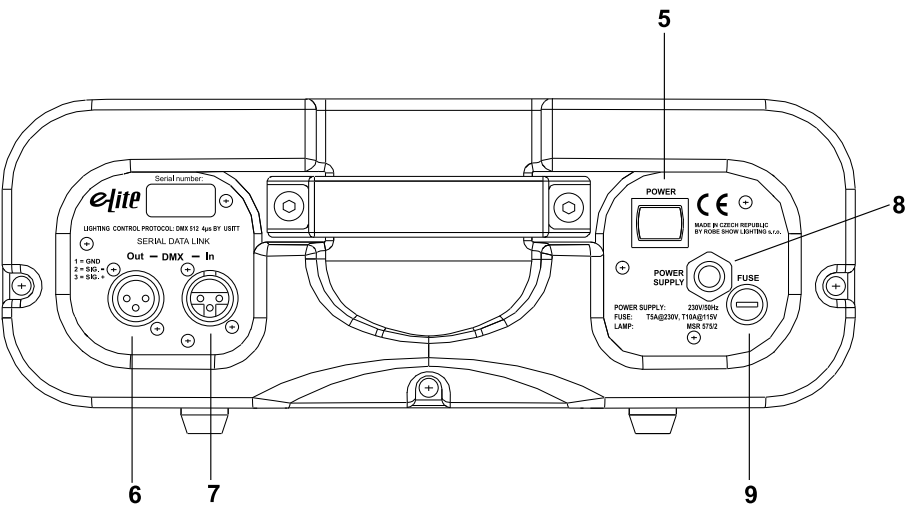
Never remove the serial barcode from the device as this would make the guarantee void.

If this device will be operated in any way different to the one described in this manual, the product may suffer damages and the guarantee becomes void. Furthermore, any other operation may lead to dangers like short-circuit, burns, electric shock, burns due to ultraviolet radiation, lamp explosion, crash etc.

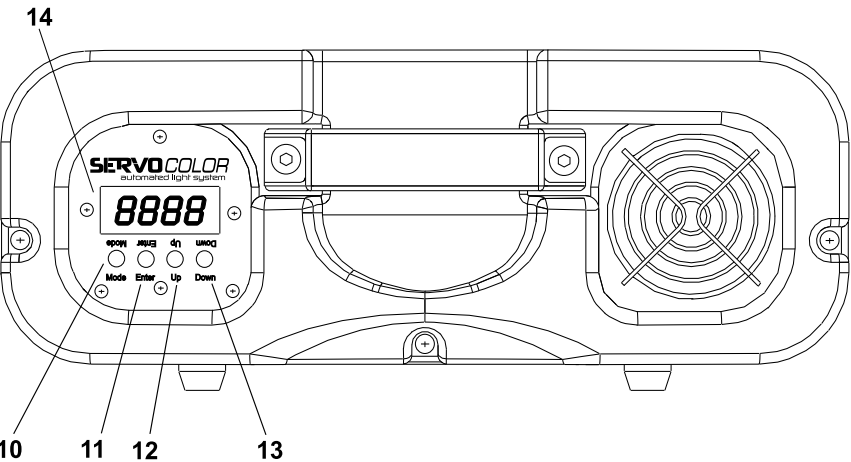
3. Description of the device



- 1 - Projector-head
- 2 - Yoke
- 3 - Carrying handles
- 4 - Base



- Rear panel:**
- 5 - Power switch
 - 6 - DMX output
 - 7 - DMX input
 - 8 - Power cord
 - 9 - Fuse holder



- Front panel:**
- 10 - Mode-button
 - 11 - Enter-button
 - 12 - Up-button
 - 13 - Down-button
 - 14 - Display

4. Installation

4.1 Fitting the lamp

DANGER !
Install the lamps with the device switched off only.
Unplug from mains before !

To insert the lamp OSRAM HSR 575/2 95 V/575 W GX-9,5 or PHILIPS MSR 575/2 95 V/575 W GX-9,5, MSD 575 95 V/575 W GX-9,5 open the small cover at the head's rearpanel (see the drawing) by loosening the 3 Phillips screws **X**, **Y** and **Z** on the cover.

Gently pull out the lamp assembly.

If changing the lamp, remove the old lamp from the socket. Insert the lamp to the socket.

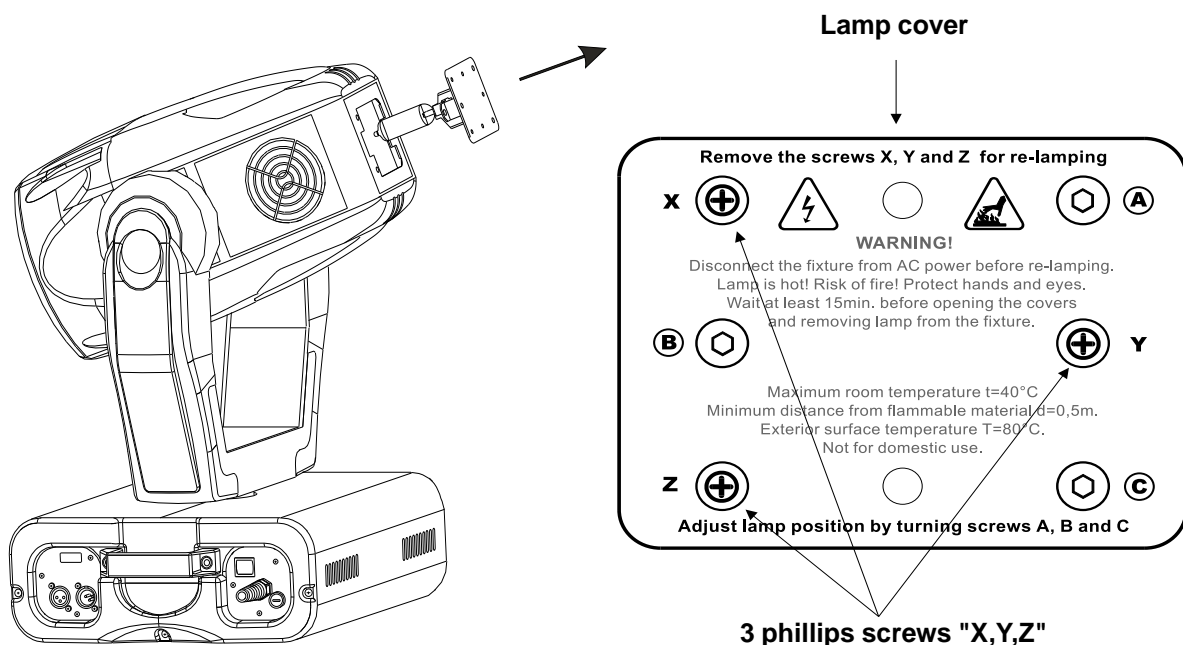
Do not install a lamp with a higher wattage! A lamp like this generates temperatures the device is not designed for.

Damages caused by non-observance are not subject to warranty. Please follow the lamp manufacturer's notes! Do not touch the glass-bulb bare-handed during the installation! Make sure that the lamp is installed tightly into the lampholder system.

Reinsert the lamp assembly and tighten the 3 screws again.

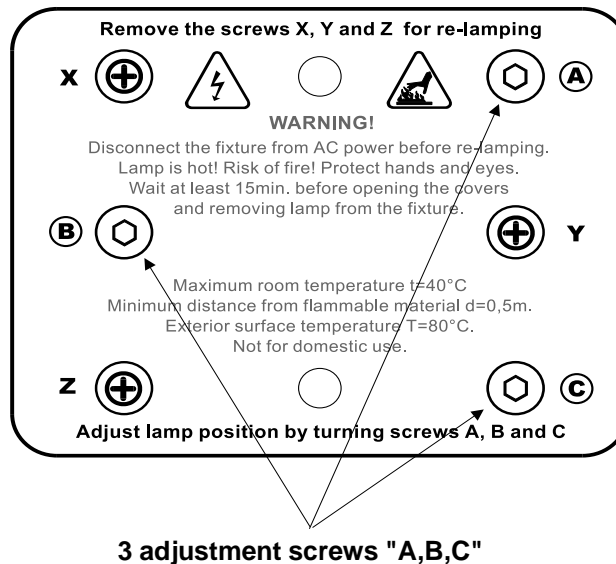
Before striking the lamp, reset the "**LAti**" counter in the main menu of the Control Board, by pressing the "Up" and "Down" buttons in one time and then confirming with the Enter-button.

Lamp assembly:



Do not operate this fixture with opened housing-cover!

4.2 Lamp adjustment:



The ServoColor 575 lampholder is aligned at the factory. Due to differences between lamps, fine adjustment may improve light performance.

Strike the lamp, open the shutter and the iris, set the dimmer intensity onto 100 % and focus the light on a flat surface (wall). Center the hot-spot (the brightest part of the beam) using the 3 adjustment screws "A, B, C". Turn one screw at a time to drag the hot-spot diagonally across the projected image. If you cannot detect a hot-spot, adjust the lamp until the light is even.

To reduce a hot-spot, pull the lamp in by turning all three screws "A, B, C" clockwise $\frac{1}{4}$ -turn at a time until the light is evenly distributed.

If the light is brighter around the edge than it is in the center, or if light output is low, the lamp is too far back in the reflector. „Push” the lamp out by turning the screws "A, B, C" counterclockwise $\frac{1}{4}$ -turn at a time the light is bright and evenly distributed.

4.3 Rigging the fixture

The installation of the projector has to be built and constructed in a way that it can hold 10 times the weight for 1 hour without any harming deformation.

The installation must always be secured with a secondary safety attachment, e.g. an appropriate catch net. This secondary safety attachment must be constructed in a way that no part of the installation can fall down if the main attachment fails.

When rigging, derigging or servicing the fixture staying in the area below the installation place, on bridges, under high working places and other endangered areas is forbidden.

The operator has to make sure that safety-relating and machine-technical installations are approved by an expert before taking into operation for the first time and after changes before taking into operation another time.

The operator has to make sure that safety-relating and machine-technical installations are approved by an expert after every four year in the course of an acceptance test.

The operator has to make sure that safety-relating and machine-technical installations are approved by a skilled person once a year.

The projector should be installed outside areas where persons may walk by or be seated.

IMPORTANT! OVERHEAD RIGGING REQUIRES EXTENSIVE EXPERIENCE, including (but not limited to) calculating working load limits, installation material being used, and periodic safety inspection of all installation material and the projector. If you lack these qualifications, do not attempt the installation yourself, but instead use a professional structural rigger. Improper installation can result in bodily injury and/or damage to property.

The projector has to be installed out of the reach of people.

If the projector shall be lowered from the ceiling or high joists, professional trussing systems have to be used. The projector must never be fixed swinging freely in the room.

Caution: Projectors may cause severe injuries when crashing down! If you have doubts concerning the safety of a possible installation, do NOT install the projector!

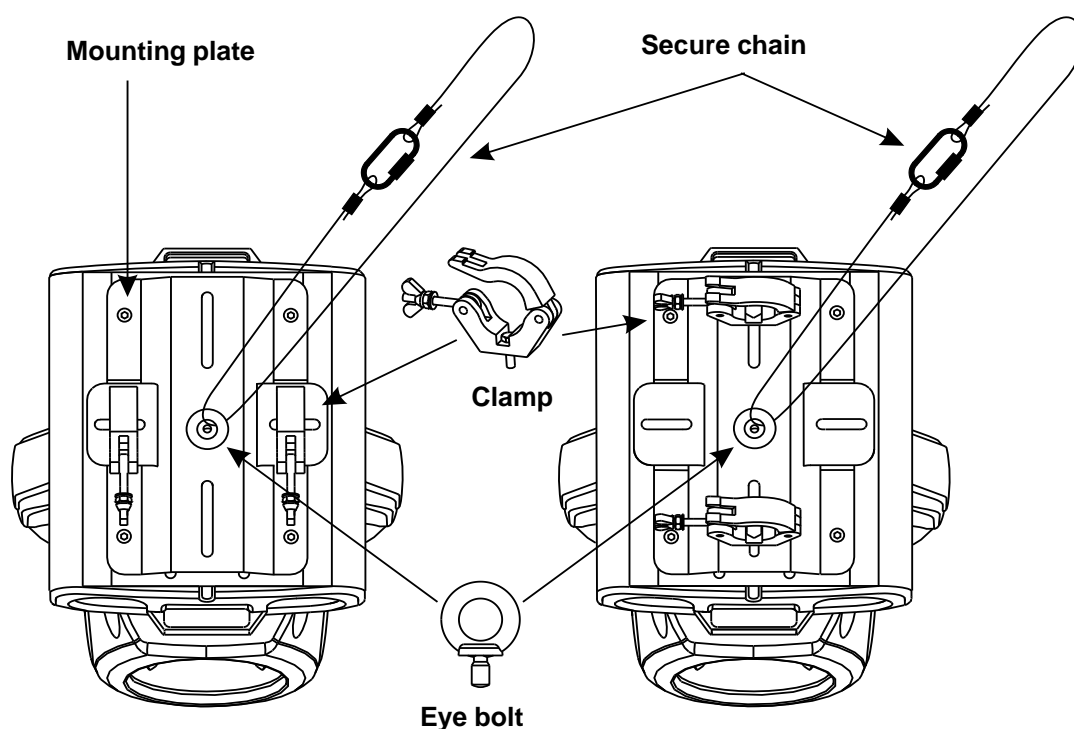
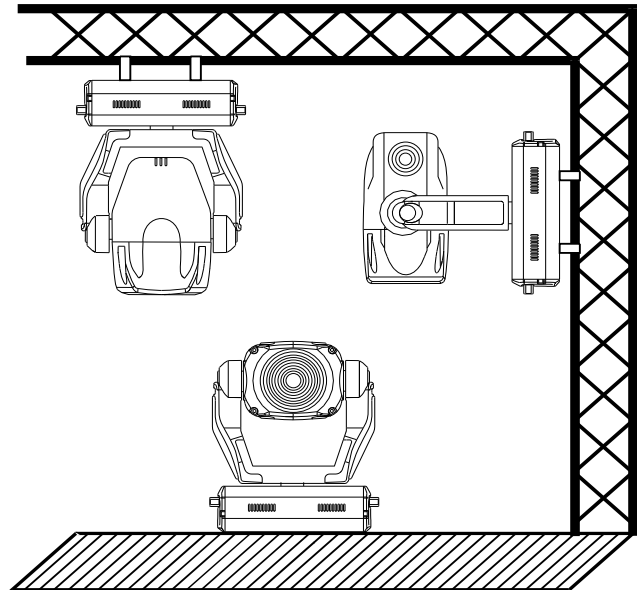
Before rigging make sure that the installation area can hold a minimum point load of 10 times the projector's weight.

Danger of fire !
When installing the device, make sure there is no highly inflammable material (decoration articles, etc.) in between a distance of min. 0,5 m.

CAUTION!
Use 2 appropriate clamps to rig the fixture on the truss.
Follow the instructions mentioned at the bottom of the base.
Make sure that the device is fixed properly! Ensure that the structure (truss) to which you are attaching the fixtures is secure.

The Moving-head can be placed directly on the stage floor or rigged in any orientation on a truss without altering its operation characteristics (see the drawing). The fixture's base enables to be mounted in two ways. Use the clamps with screws M10 or M12 - check the base bottom.


For overhead use, always install a safety-rope that can hold at least 10 times the weight of the fixture. You must only use safety-ropes with screw-on carabines. Pull the safety-rope through the eye bolt on the bottom of the base and over the trussing system etc. Insert the end in the carabine and tighten the fixation screw.



4.4 Connection to the mains

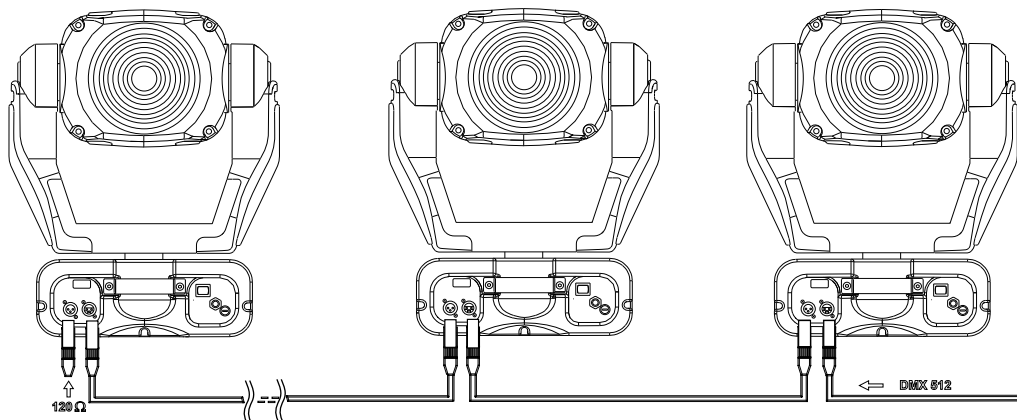
Connect the fixture to the mains with the enclosed power-plug.
The earth has to be connected!

The occupation of the connection-cables is as follows:

Cable	Pin	International
Brown	Live	L
Blue	Neutral	N
Yellow/Green	Earth	

4.5 DMX-512 connection/connection between fixtures

The wires must not come into contact with each other, otherwise the fixtures will not work at all, or will not work properly.

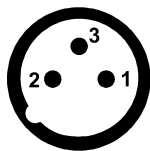


Only use a stereo shielded cable and 3-pin XLR-plugs and connectors in order to connect the controller with the fixture or one fixture with another.

Occupation of the XLR-connection:

DMX - output

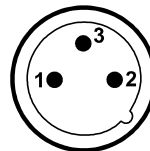
XLR mounting-socket:



- 1 - Ground
- 2 - Signal (-)
- 3 - Signal (+)

DMX-input

XLR mounting-plug:



- 1 - Ground
- 2 - Signal (-)
- 3 - Signal (+)

If you are using the standard controllers, you can connect the DMX-output of the controller directly with the DMX-input of the first fixture in the DMX-chain. If you wish to connect DMX-controllers with other XLR-outputs, you need to use adapter-cables.

Building a serial DMX-chain:

Connect the DMX-output of the first fixture in the DMX-chain with the DMX-input of the next fixture. Always connect one output with the input of the next fixture until all fixtures are connected.

Caution: At the last fixture, the DMX-cable has to be terminated with a terminator. Solder a 120 Ohm resistor between Signal (-) and Signal (+) into a 3-pin XLR-plug and plug it in the DMX-output of the last fixture.

5. DMX PROTOCOL

Channel 16 bit	Channel 8 bit	Value	Function	Type of control
1	1	0-255	Pan Pan movement by 530°	proportional
2		0-255	Pan fine Fine control of pan movement	proportional
3	2	0-255	Tilt Tilt movement by 280°	proportional
4		0-255	Tilt fine Fine control of tilt movement	proportional
5	3	0 1-249 250-252 253-255	Speed of PAN/TILT movement Max. speed (tracking mode) From max. speed to min.speed (vector mode) Max. speed,(track.mode),black-out while color changes Max.speed (vector mode),black out while pan/tilt moving or color changes	step proportional step step
6	4	0-127 128-139 140-229 230-239 240-255	Lamp on/off,reset,fans speed control From max.speed of fan to min. speed of fan Lamp on,reset, No function Lamp off after 3 sec No function	proportional step step step step
7	5	0 16 32 48 64 80 96 112 128-190 191-192 193-255	Colours Open/white Deep red Blue Green Orange CTF 3200 K CTF 5600 K UV filter Forwards rainbow effect from fast to slow No rotation Backwards rainbow effect from slow to fast	proportional proportional proportional proportional proportional proportional proportional proportional proportional step proportional
8	6	0-255	Cyan Cyan (0-white, 255-full cyan)	proportional
9	7	0-255	Magenta Magenta (0-white, 255-full magenta)	proportional
10	8	0-255	Yellow Yellow (0-white, 255-full yellow)	proportional
11	9	0-255	Speed of CMY and Dimmer From max.speed to min. speed	proportional
12	10	0-7 8-15 16-23 24-31 32-39	Colours macros-CMY and colour wheel Off Macro 1 Macro 2 Macro 3 Macro 4	step step step step step

Channel 16 bit	Channel 8 bit	Value	Function	Type of control
		40-47 48-55 56-63 64-71 72-79 80-87 88-95 96-103 104-111 112-119 120-127 128-135 136-143 144-151 152-159 160-167 168-175 176-183 184-191 192-199 200-207 208-215 216-223 224-231 232-239 240-247 248-255	Macro 5 Macro 6 Macro 7 Macro 8 Macro 9 Macro 10 Macro 11 Macro 12 Macro 13 Macro 14 Macro 15 Macro 16 Macro 17 Macro 18 Macro 19 Macro 20 Macro 21 Macro 22 Macro 23 Macro 24 Macro 25 Macro 26 Macro 27 Macro 28 Macro 29 Macro 30 Macro 31	step step
13	11	0-70 71-180 181-255	Effect wheel Full beam Beam shaper Frost filter	step proportional proportional
14	12	0-255	Zoom Zoom from 28° to 7°	proportional
15	13	0-31 32-63 64-95 96-127 128-159 160-191 192-223 224-255	Shuter,stroke Shutter closed Shutter open Strobe-effect from slow to fast (max. 10flashes/s) Shutter open Pulse-effect in sequences Shutter open Random strobe-effect Shutter open	step step proportional step proportional step proportional step step
16	14	0-255	Dimmer intensity Gradual adjustment of the dimmer intensity from 0 to 100%	proportional

6. Addressing

The control board on the front panel of the ServoColor 575 allows you to assign the DMX fixture address, which is defined as the first channel from which the ServoColor 575 will respond to the controller.

If you set, for example, the address to channel 5, the ServoColor 575 will use the channel 5 to 20 for control. Please, be sure that you don't have any overlapping channels in order to control each ServoColor 575 correctly and independently from any other fixture on the DMX data link.

If two, three or more ServoColor 575 are addressed similarly, they will work similarly.

For address setting follow this procedure:

1. Switch On the ServoColor 575 and wait until the fixture reset has finished ("rSt" is flashing at the display).
2. Press the **[Mode]** key in order to access the main menu. Browse through the menu by pressing the **[Up]** and **[Down]** keys until the display shows "A001". Confirm by pressing **[Enter]** key and the letter "A" will flash.
3. Use the **[Up]** and **[Down]** keys to select the desired address.
4. Confirm by pressing **[Enter]** or **[Mode]** to cancel.

Controlling:

After having addressed all ServoColor 575, you may now start operating these via your lighting controller.

Note: After switching on, the ServoColor 575 will automatically detect whether DMX 512 data is received or not.

If there is no data received at the DMX-input, the display will start to flash "A001" with actually set address.

This situation can occur if:

- the 3 PIN XLR plug (cable with DMX signal from controller) is not connected with the input of the device
- the controller is switched off or defective, if the cable or connector is defective or the signal wires are swap in the input connector.

Note: It's necessary to insert the XLR termination plug (with 120 Ohm) in the last lighting in the link in order to ensure proper transmission on the DMX data link.

7. Remotely controllable functions

7.1 Lamp

The ServoColor 575 is to be operated with a OSRAM HSR 575/2 95 V/575 W GX-9,5 or PHILIPS MSR 575/2 95 V/575 W GX-9,5, MSD 575 95 V/575 W GX-9,5 lamp.

A relay inside of the ServoColor 575 allows you to switch on and off the lamp via the Control Board on the front panel or via your controller without affecting the rest of the lighting.

7.2 Switching On and Off the lamp by the control board

1. Switch On the ServoColor 575 and wait until the fixture reset has finished.
2. Press the **[Mode]** key in order to access the main menu. Browse through the menu by pressing the **[Up]** and **[Down]** keys until the display shows "LAMP". Confirm by pressing **[Enter]** key.
3. Use the **[Up]** and **[Down]** keys to select "On" for switch On the lamp and "Off" for switch Off the lamp and press **[Enter]** to confirm or **[Mode]** to cancel.

Note: It is also important to note, that the discharge lamp is cold restrike types, that means, that they have to be cold before re-striking. For this reason, you have to wait 5 minutes (max. speed of fan must be adjusted) after having switched Off the lamp before you can switch it back On again. If you try to switch On the lamp within 5 minutes after having switched it Off, the ServoColor 575 will store this information and automatically ignite the lamp when the 5 minutes period has expired. The message "HEAt" will appear on the control board display of the ServoColor 575. If the ignition of the lamp is seven times unsuccessful, on the display will appear "LA.Er", meaning that the lamp could be damaged or even missed, or there could be a failure on the ignitor or ballast.

7.3 Colour wheel

The ServoColor 575 features a colour wheel with 8 color positions - 4 of these with dichroic colors, hot and cold colour temperature filters (3200K and 5600K), UV filter and the last one open. It is also possible to rotate the color wheel continuously at different speeds ("Rainbow effect" in both directions).

7.4 CMY - colours mixing system

The CMY color mixing system is based on graduated cyan, magenta, and yellow color filters. A continuous range of colors may be achieved by varying the amount of each filter from 0 to 100%.

7.5 Beam effects

The beam shaper allow you to widen and flatten beam. Beam shaper rotates 180°. Frost filter on the same wheel as beam shaper softens the beam

7.6 Shutter/strobe

Extremely fast shutter may also be used for strobe effect (1 - 10 flashes per second).

7.7 Zoom

Motorized zoom unit enables the beam to be zoomed between 7° and 28° beam angle.

7.8 Dimmer

Smooth 0 - 100 % dimming is provided by special dimmer unit.

7.9 Fan

The ServoColor 575 is cooled by three axial fans - two in the projector head and one in the base. The speed of the fan (and of course the noise) can be continuously reduced if very quiet performance is required.

By the Control Board using the "**FAnS**" function you can choose 5 types of low fan speed operating:

1. "HIGH" - high (max.) speed of fans

The cooling fans work on max. speed (max. cooling)

2. "rEG" - continuous controlling of the fan speed

the fan automatically raises its speed in order to control inside temperature of the lighting, if the temperature inside increases about certain level (the low fan speed reduces the cooling of the lighting). This cycle can repeat several times until the temperature inside is on suitable level.

3. "Lo.OF" - low speed/Switch Off the lamp operating

the fan keeps the adjusted low speed until the temperature exceeds max. inside temp. Then the ServoColor 575 automatically switch Off the lamp.

4. "Lo.HI" - low/high speed of the fan operating

the fan keeps the adjusted low speed until the temperature exceeds max. inside temp. of the fixture, then the ServoColor 575 automatically switch from low to high the fan speed.

5. "Auto" - continuous controlling of the fan speed without the DMX value.

This mode is similar to "reG", but the initial level of the fan speed can't be adjusted by the DMX.

8. Control Board

The control board situated on the front panel of the ServoColor 575 offers several features. You can simply set the lighting address, read the number of lamp or unit hours, switch On and Off the lamp, run test show, make a reset and also use special functions for manual, demo and service purposes.

8.1 Main functions

The main menu is accessed by pressing the **[Mode]** key - press this one so many times until the display shows message "**A001**" (with actually stored address). Browse through the menu by the pressing **[Up]** and **[Down]** keys - the display shows step by step these messages: **A001, rPAn, rTilt, 16br, LAti, Poti, LAMP, dEMo, rESE, SPEC**. Press **[Enter]** if you wish to select one of them. The functions are described in the following sections and the function hierarchy is shown below.



DMX 512 Address settings

The letter "A" flashes. Use the **[Up]** and **[down]** keys to select required address (001 - 497) and press **[Enter]** to confirm or **[Mode]** to cancel and return to the main menu.

Pan reverse

This function allows you to invert the pan movement. Use the **[Up]** and **[Down]** keys to select "On" if you wish this feature or "Off" if you don't wish this feature and press **[Enter]** to confirm or **[Mode]** to cancel and return to the main menu.

Tilt reverse

This function allows you to invert the tilt movement. Use the **[Up]** and **[Down]** keys to select "On" if you wish this feature or "Off" if you don't wish this feature and press **[Enter]** to confirm or **[Mode]** to cancel and return to the main menu.

Movement resolution

By this function you can adjust the desired movement resolution 8 or 16 bit. Use the **[Up]** and **[Down]** keys to select "On" if you wish the 16 bit high resolution or "Off" if you wish only 8 bit resolution and press **[Enter]** to confirm or **[Mode]** to cancel and return to the main menu.

Note: If you adjust the 16 bit resolution, the fixture will occupy 16 DMX channels, if you adjust the 8 bit resolution, the fixture will be operated by only 14 DMX channels. Please, check the DMX protocol.

Lamp On time

This option enables you to read the total number of hours that the lamp has been powered On. Press **[Enter]** or **[Mode]** to return to the main menu. In order to reset the counter to 0, you have to hold the **[Up]** and **[Down]**-button and press the **[Enter]**-button.

Power On time

By this option you can read the total number of hours that the ServoColor 575 has been powered On. Press **[Enter]** or **[Mode]** to return to the main menu.

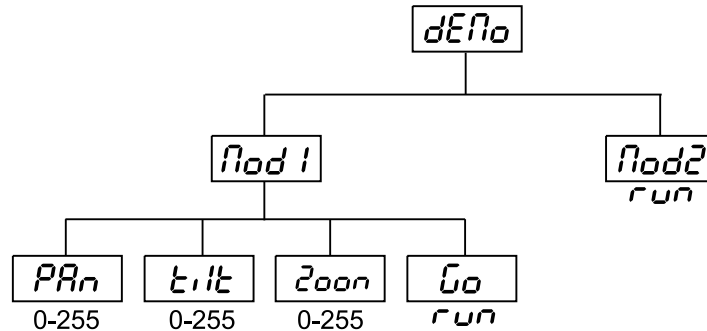
Switch On/Off the lamp

Use the **[Up]** and **[Down]** keys to select "On" if you wish the switch On the lamp or "Off" if you wish switch Off the lamp and press **[Enter]** to confirm or **[Mode]** to cancel and return to the main menu.



Demo sequences

This function allows you to run a special demo-test sequences without an external controller, which will show you some possibilities of using ServoColor 575. Press **[Up]** and **[Down]** keys to select the **"Mod1"** or **"Mod2"** sequences. The **"Mod1"** is suitable for projections on the wall, ceiling or ground without any head-movement, the **"Mod2"** uses all ServoColor 575 functions and therefore is good for a complete introduction of the fixture.



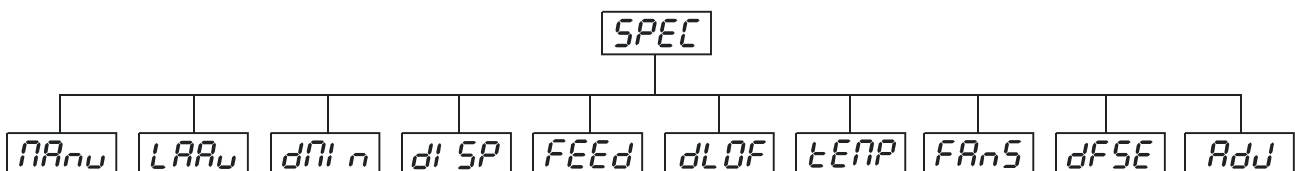
Reset Function

Press **[Enter]** key to run reset. This option enables the ServoColor 575 to index all effects (functions) and return to their standard positions.

8.2 SPEC - Special functions



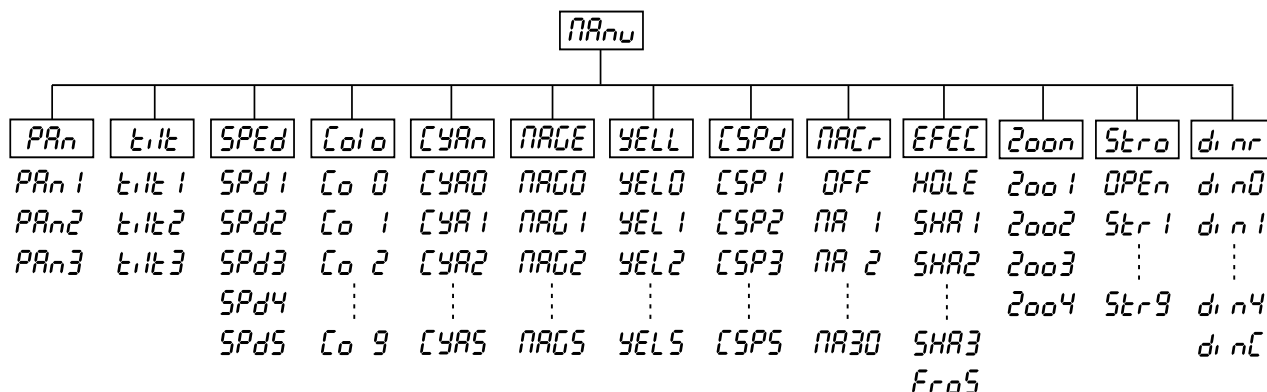
Use the **[Up]** and **[Down]** keys to browse through the special functions and select the one by pressing **[Enter]**.





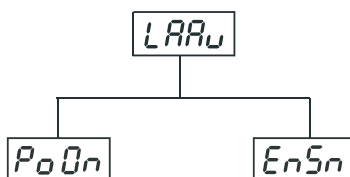
Manual control of effects

This function allows you to control manually the channel functions of the fixture. Use the **[Up]** and **[Down]** keys to select desired function and press **[Enter]** to adjust the effect or **[Mode]** to cancel and return to the menu.



Lamp On automatically

This menu allows you to turn the lamp On after switching the fixture On and switch On/Off the lamp light sensor.



Lamp On after switching the fixture On

This function enables to turn the lamp On automatically after switching the fixture On. Use the **[Up]** and **[Down]** keys to select "On" if you wish to turn the lamp On automatically after switching the fixture On or "Off" if you wish the lamp Off after switching On the fixture and press **[Enter]** to confirm or **[Mode]** to cancel and return to the menu.



Switch On/Off the lamp light sensor

Use the **[Up]** and **[Down]** keys to select "On" if you wish to switch the lamp light sensor On and press **[Enter]** to confirm or **[Mode]** to cancel and return to the menu. **The option "On" is for the standard operation.**

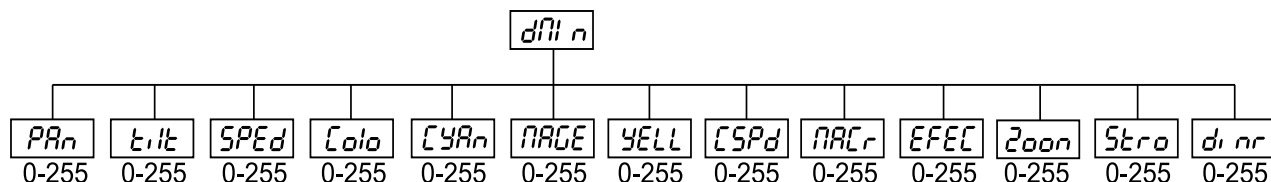
Use the **[Up]** and **[Down]** keys to select "Off" if you wish to switch the lamp light sensor Off and press **[Enter]** to confirm or **[Mode]** to cancel and return to the menu.

Important: The option "Off" is for "emergency operation" only if the lamp light sensor is defective and you will wait for a delivery of the spare light sensor! If the lamp light sensor was switched Off, the error messages "LAEr, SnEr, HEAt" will not appear on the display (only the message "HEAt" will appear if the lamp was turned Off and On within 5 minutes) and at switching On of the lamp the electronics will still try to ignite the lamp until it shines (even when the lamp is damaged or absent), on this account some electronics parts could be damaged!



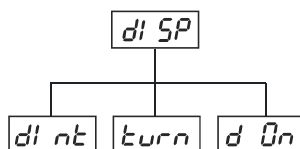
DMX values

Readout DMX values of each channel received by the fixture. Use the **[Up]** and **[Down]** keys to select desired channel and press **[Enter]** to read its value coming to the fixture or **[Mode]** to cancel and return to the menu.



Display adjusting

This function allows you to adjust the display settings:



Display intensity

With this function you can adjust the display intensity from 20% to 100%. Use the **[Up]** and **[Down]** keys to select the level of the display intensity and press **[Enter]** to confirm or **[Mode]** to cancel and return to the menu.



Display-reverse

With this function, you can rotate the display by 180°. Use the **[Up]** and **[Down]** keys to select "normal display" or "display turned by 180°" and press **[Enter]** to confirm or **[Mode]** to cancel and return to the menu.



Display - On

This function allows you to keep the display On or to turn Off automatically 2 minutes after last pressing any key on the control board. Use the **[Up]** and **[Down]** keys to select "On" if you wish to keep the display On or "Off" if you wish to turn Off automatically 2 minutes after last pressing any key on the control board and press **[Enter]** to confirm or **[Mode]** to cancel and return to the menu.



PAN/TILT - feedback

This function allows to return the mowing head to the required position after changing the position by external force (e.g. by stroke). Use the **[Up]** and **[Down]** keys to select **"On"** if you wish to enable this function or **"Off"** if you wish not to return the mowing head to the required position and press **[Enter]** to confirm or **[Mode]** to cancel and return to the menu.

Note: If feedback was switched Off, the pan/tilt- position is changed by external force and feedback is switched On again, the moving head might not be synchronized with the DMX signal. You have to make a reset in order to synchronize the moving head with the DMX signal.



Lamp Off via DMX

This function allows you to switch Off the lamp by DMX. Use the **[Up]** and **[Down]** keys to select **"On"** if you want to switch Off the lamp by DMX or **"Off"** if you don't want to switch Off the lamp by DMX and press **[Enter]** to confirm or **[Mode]** to cancel and return to the menu.



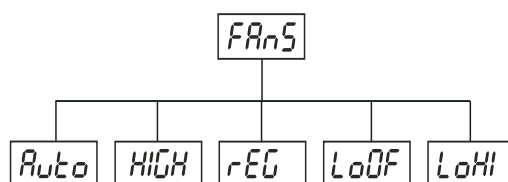
Temperature

Temperature readouts of fixture inside in Celsius. Inside temperatures below 80° C are not critical. 80° C and more lead to the lamp being switched off. Please note that the outside temperature should not exceed 40° C.



Low fan speed operating

By using this function you can choose 5 types of low fan speed operating. Browse through this menu by the pressing **[Up]** and **[Down]** keys - the display shows step by step these messages: **"HIGH, reG, Lo.OF, Lo.HI, Auto"**. Press **[Enter]** if you wish to select one of them or **[Mode]** to cancel and return to the menu.



high (max.) speed of fans

The cooling fans work on max. speed (max. cooling)



continuous controlling of the fan speed

The fan automatically raises its speed in order to control inside temperature of the lighting, if the temperature inside increases about certain level (the low fan speed reduces the cooling of the lighting). This cycle can repeat several times until the temperature inside is on suitable level.

LoOF**low speed/Switch Off the lamp operating**

The fan keeps the adjusted low speed until the temperature exceeds max. inside temperature of the fixture, then the ServoColor 575 automatically switch Off the lamp.

LoHi**low/high speed of the fan operating**

The fan keeps the adjusted low speed until the temperature exceeds max. inside temperature of the fixture, then the ServoColor 575 automatically switch from low to high the fan speed.

Auto**continuous controlling of the fan speed without the DMX value**

This mode is similar to "reG", but the initial level of fan speed can't be adjusted by the DMX.

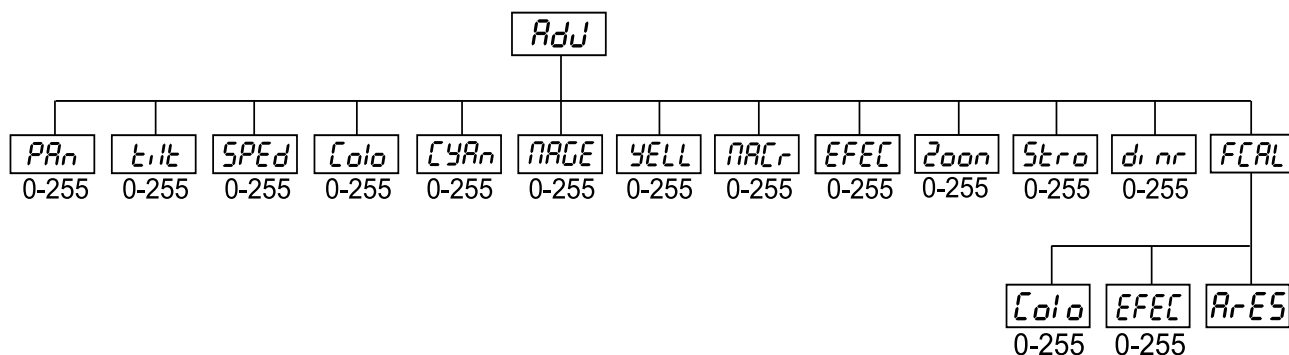
dfSE**Default settings**

Press **[Enter]** to reset all fixture personalities (not the adjusting functions) to the default values. On the display will appear "rSt" meaning that the fixture makes the reset. See the table of personality setting and their default positions.

Personality	Display	Default values (SHADED)
Pan reverse	rPAn	On OFF
Tilt reverse	rtilt	On OFF
Movement resolution	16br	On OFF
Lamp On after switch. the fixture On	POOn	On OFF
Switch On/Off the lamp light sensor	EnSn	On OFF
Display-On	d On	On OFF
Display intensity	d Int	20 40 60 80 100
Display- reverse	turn	turn turn
PAN/TILT feedback	FEEd	On OFF
Lamp Off via DMX	dLOF	On OFF
Low fan speed operating	FAnS	Auto HIGH reG LoOF LoHi

Adv**Adjusting the default positions of colour and effect wheels**

By this function you can calibrate and adjust the colour and CMY to their standard/right positions. Use the **[Up]** and **[Down]** keys to browse through the adjusting menu - the display shows step by step these messages: "PAn, Tilt, SPed, Colo, CYAn, MAGE, YELL, MACr, EFEC, Zoom, Stro, dimr, FCAL" by which you can adjust the fixture to the required/desired position (0-255) before the function calibration. Then when the positioning is finished use the last "FCAL" function (Fixture calibration).



1. Calibration via the control board

Press **[Enter]** and the **[Up]** and **[Down]** keys in order to display the following messages: "**Colo, EFEC**" for very smooth function calibration. Select one of them, press **[Enter]** and use the **[Up]** and **[Down]** keys in order to adjust their right value from 0 to 255. Then press **[Enter]** to confirm or **[Mode]** to cancel and return to the menu. This can be repeated for each calibration parameter if it is required. When the calibration is finished, it is necessary to use the "**ArES**" function in order to write the calibration values to the memory (EPROM) and to make a reset in order to check the newly adjusted positions of the colour and the effect wheel. When the reset of the fixture is finished, the display will show the "**FCAL**" message. Press **[Enter]** to repeat the calibration or **[Mode]** to return to the "**Adj**" menu.

2. Calibration via the external controller

Press **[Enter]** and the **[Up]** and **[Down]** keys in order to display the following messages: "**Colo, EFEC**," - calibration parameters. Select one of them and press **[Enter]**.

Now you can calibrate the colour and the effect by your controller. The DMX calibration protocol is described in the table.

DMX Calibration protocol:

DMX chanel	Function		
1	Colour	S m o o t h m i c r o m o v e m e n t p	Calibration 0-255
2	Effect		Calibration 0-255
3	No function		
4	No function		
5	No function		
6	No function		
7	Colours	Standard protocol	
8	Cyan	Standard protocol	
9	Magenta	Standard protocol	
10	Yellow	Standard protocol	
11	Speed CMY,dimmer	Standard protocol	
12	Colours macros	Standard protocol	
13	Beam effects	Standard protocol	
14	Zoom	Standard protocol	
15	Strobe	Standard protocol	
16	Dimmer	Standard protocol	

After having calibrated required functions press **[Enter]** to confirm (or **[Mode]** to cancel and return to the menu without reset by the "ArES" function) and use the "ArES" function in order to write the calibration values to the memory (EEPROM) and to make a reset in order to check the new adjusted positions of the colour and effect wheel.

9. Error and information messages

HEAt

This message appears if you try to switch on the lamp within 5 minutes after having switched it off (the lamp is too hot). The message will appear on the display if the lamp doesn't ignite within 28 seconds. The ServoColor 575 will store this information and automatically ignite the lamp when the 5 minutes period has expired.

Caution: The message is disabled if the lamp light sensor (function "EnSn") is switched Off (only if the lamp was turned Off and On within 5 minutes, the message "HEAt" will appear).

LAEr

The ignition of the lamp is seven times unsuccessful (the HEAt message appeared six times before), and the display shows "LAEr", meaning that the lamp could be damaged or even missed, the fixture is overheating (this can occur if the ambient temperature is 40° C or more) or there could be a failure on the ignitor or ballast. Please place or replace the lamp, check the ambient temperature or contact your dealer if the situation was not caused by the lamp.

Caution: The message is disabled if the lamp light sensor (function "EnSn") is switched Off.

FAn

The message informs you that the fixture was overheating and the lamp was switched off. This message will appear on the display if the fan speed operating "LOOF" is selected.

MbEr

This message informs you that the main PCB does not communicate correctly with the Control Board.

CoEr (color-wheel error)

This message will appear after the reset of the fixture if the magnetic-indexing circuit malfunctions (sensor failed or magnet missing) or the stepping-motor is defective (or its driver circuit on the main PCB). The color-wheel is not located in the default position after the reset.

FtEr

The message informs you that the fixture was overheating (occured if the ambient temperature is 40° C or more) and that the relay switched off the lamp. This message will appear on the display until the temperature will be on a suitable level, then the display will show the *HEAt* message meaning the lamp is too hot.

SnEr

This message appears if the lamp lighting sensor is failed. Please, contact your dealer.

Caution: The message is disabled if the lamp light sensor (function "EnSn") is switched Off.

PoEr

This message will appear if the fixture was shortly disconnect from the main.

PAEr (PAN-yoke movement error)

This message will appear after the reset of the fixture if the yoke's magnetic-indexing circuits malfunction (sensors failed or magnet missing) or the stepping motor is defective. (Or its driving IC on the main PCB). The yoke is not located in the default position after the reset.

tiEr (TILT-head movement error)

This message will appear after the reset of the fixture if the head's magnetic-indexing circuit malfunctions (sensor failed or magnet missing) or the stepping motor is defective. (Or its driving IC on the main PCB). The head is not located in the default position after the reset.

FrEr

It will appear if the frequency of the mains is not standard 50 or 60Hz.

10. Technical specifications

Power supply:

EU-model:.....208/230/240 V AC, 50/60 Hz ~
Fuse:.....T 5.0A @ 230 V
US-model:.....100/115/208/230V AC, 50/60 Hz ~
Fuse:.....T10A @ 115V
Power consumption:.....850 VA

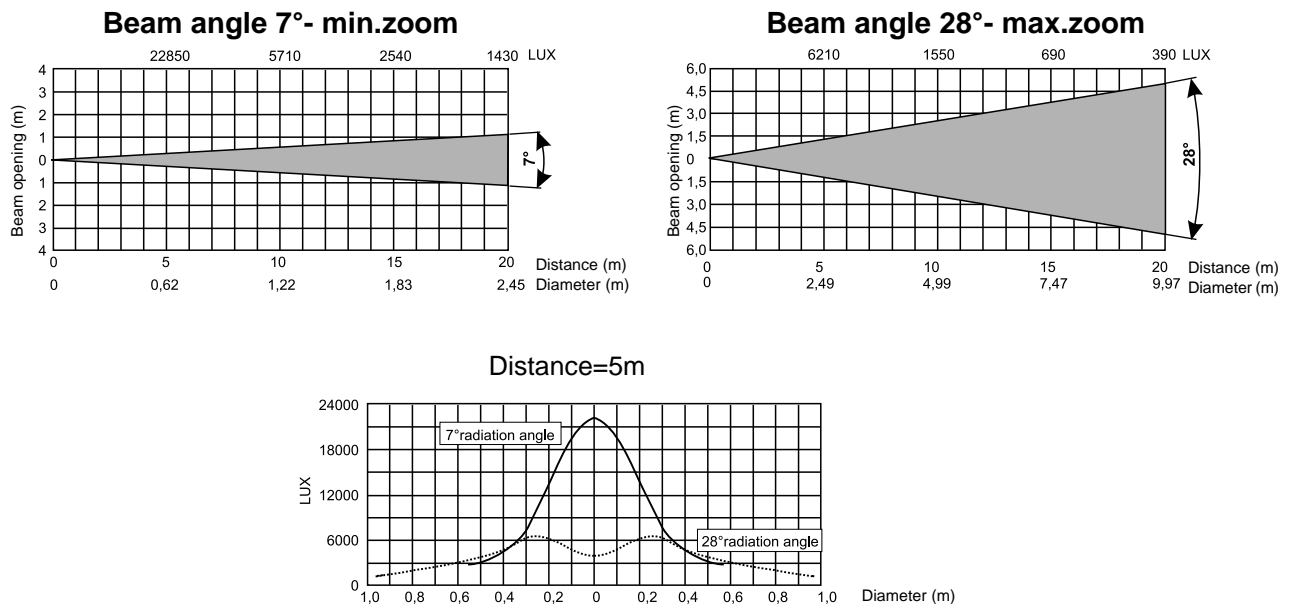
Lamp:

-OSRAM HSR 575/2 95V/575W GX-9,5 750h ; PHILIPS MSR 575/2 95V/575W GX-9,5 750h or
MSD 575 95V/575W GX-9,5 2000h

Optical System:

- High luminous-efficiency parabolic reflector
- Zoom 7°-28°
- Fresnel lens of diameter 200 mm
- All lenses are anti-reflection coated

Beampath:



Colours:

- CMY-colours mixing system
- 4 dichroic colour-filters plus white, colour temperature filters 3200 K and 5600 K ,UV filter
- Colour-wheel with variable rotation speed in both directions

Strobe:

- Strobe effect with variable speed (1 - 10 flashes per second)

Dimmer:

- Smooth dimmer from 0 - 100 %

Zoom:

- Remotely controllable via DMX
- Motorized multi-step-zoom between 7° and 28° beam angles.

Effects:

- Beam shaper
- Frost filter

Motors:

- 13 high quality stepping-motors controlled by microprocessors

Electronics:

- Addressing, special functions setting, effects calibration via control panel with 4-digit LED display
- Readout fixture and lamp usage, receiving DMX values, temperature, etc
- Built-in analyzer for easy fault finding, error messages
- Remotely switching of the lamp
- Built-in demo sequences
- Black-out while head moving or color changing
- Silent fans cooling, remotely controllable speed of fans
- Self-resetable thermo-fuse
- Digital serial input DMX-512
- 16 control-channels (full 16 bit protocol):
 - Channel 1: Horizontal head-movement 8 bit
 - Channel 2: Fine Horizontal head-movement 16 bit
 - Channel 3: Vertical head-movement 8 bit
 - Channel 4: Fine Vertical head-movement 16 bit
 - Channel 5: Pan/Tilt speed
 - Channel 6: Fan speed, On/Off lamp, reset
 - Channel 7: Colours
 - Channel 8: Cyan
 - Channel 9: Magenta
 - Channel 10: Yellow
 - Channel 11: Speed of CMY and dimmer
 - Channel 12: Colours macros
 - Channel 13: Effect wheel
 - Channel 14: Zoom
 - Channel 15: Shutter, strobe
 - Channel 16: Dimmer

Pan/Tilt:

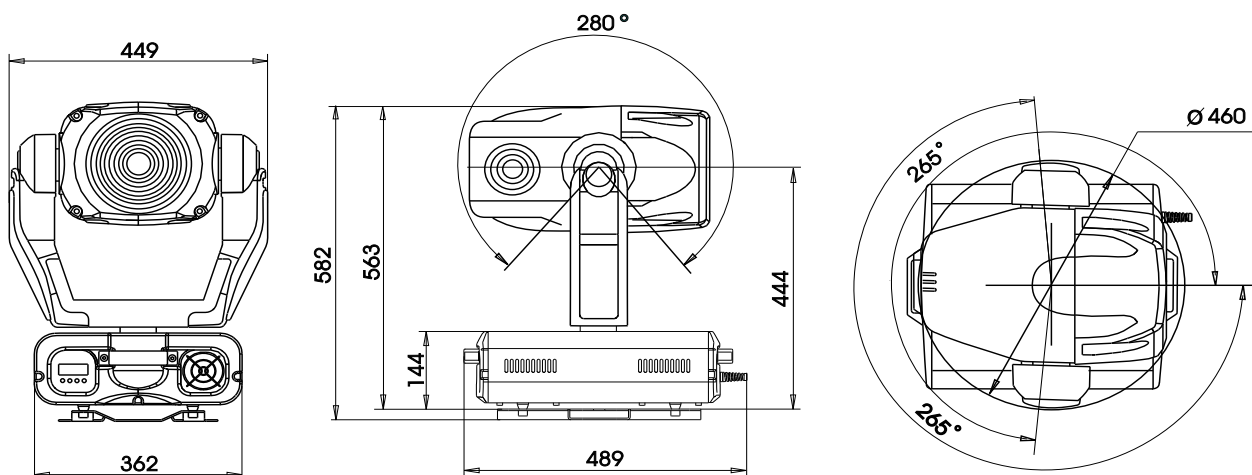
- Pan movement range 530°
- Tilt movement range 280°
- 8/16 bit movement resolution
- Automatic Pan / Tilt position correction
- Maximum PAN-movement 530° in 2.65 s
- Maximum TILT-movement 280° in 1.68 s

Rigging:

- Stands directly on the floor
- Mounts horizontally or vertically with 2 clamps
- 2 truss orientation
- Safety chain/cord attachment bolt

Dimensions and weight:

- Length of base (including handles): 467 mm
- Width of yoke: 449 mm
- Height (head horizontal): 580 mm
- Weight (net): 33 kg
- Shipping weight: 38 kg



Temperatures:

- Maximum ambient temperature t_a : 40° C
- Maximum housing temperature t_b (steady state): 80° C

11. Maintenance and cleaning

The operator has to make sure that safety-relating and machine-technical installations are inspected by an expert after every four years in the course of an acceptance test.

The operator has to make sure that safety-relating and machine-technical installations are inspected by a skilled person once a year.

The following points have to be considered during the inspection:

1. All screws used for installing the devices or parts of the device have to be tightly connected and must not be corroded.
2. There must not be any deformations on housings, fixations and installation spots (ceiling, suspension, trussing).
3. Mechanically moved parts like axles, eyes and others must not show any traces of wearing (e.g. material abrading or damages) and must not rotate with unbalances.
4. The electric power supply cables must not show any damages, material fatigue (e.g. porous cables) or sediments. Further instructions depending on the installation spot and usage have to be adhered by a skilled installer and any safety problems have to be removed.

DANGER TO LIFE !
***Disconnect from the mains before starting any
maintenance work***

It is absolutely essential that the fixture is kept clean and that dust, dirt and smoke-fluid residues must not build up on or within the fixture. Otherwise, the fixture's light-output will be significantly reduced. Regular cleaning will not only ensure the maximum light-output, but will also allow the fixture to function reliably throughout its life.

Please use a moist, lint-free cloth. Never use alcohol or solvents!

The front objective lens will require weekly cleaning as smoke-fluid tends to building up residues, reducing the light-output very quickly. The cooling-fans should be cleaned monthly.

The interior of the fixture should be cleaned at least annually using a vacuum-cleaner or an air-jet.

The dichroic colour-filters, the CMY-wheels and the internal lenses should be cleaned monthly.

There are no serviceable parts inside the device except for the lamp and the fuse. Maintenance and service operations are only to be carried out by authorized dealers.

Replacing the fuse

If the lamp burns out, the fine-wire fuse of the device might fuse, too. Only replace the fuse by a fuse of same type and rating.

Before replacing the fuse, unplug mains lead.

Procedure:

- 1) Unscrew the fuseholder on the rear panel with a fitting screwdriver from the housing (anti-clockwise).
- 2) Remove the old fuse from the fuseholder.
- 3) Install the new fuse in the fuseholder.
- 4) Replace the fuseholder in the housing and fix it.

12. Appendix

We believe you will enjoy your ServoColor 575. We assure you will enjoy this product for years if you follow the instructions given in this manual.

If you have any questions and comments, please do not hesitate to contact us.

Please note: errors and omissions for every information given in this manual excepted. Every information is subject to change without prior notice. Any claim due to missing or wrong information in this manual is herewith excluded!